

Address of Dr. Karl T. Compton

AFTER the introductory remarks of your President, I feel a great sense of humility in trying to say anything at all—an even greater sense of humility than I had when I was first asked to appear on this program, because I then recalled that I had appeared before you two years ago and could scarcely conceive of why I should be asked to speak again. There was also the reservation that I was not a textile man, primarily. I had the feeling that somebody could bring you a message at this time that would be much more to the point than anything I could possibly say. It is true that I have measured pH, and have looked through and operated a polarizing microscope, but I submit to you that that doesn't make of me a textile man.

However, there is always a certain opportunity for help in a situation of this sort. I don't know whether any of you have heard the story about a young student down at Princeton who came from a very God-fearing, conscientious New England family. When he took his first examination and reached the end of his examination book, he came across that thing which is peculiar to Princeton, I believe, the honor pledge which goes something like this: "I pledge my honor as a gentleman that I have neither given nor received help during this examination."

His conscience began to trouble him. So he went up to his instructor and said, "Sir, I am not sure that I ought to sign this pledge."

The instructor said, "What is the trouble?"

He said, "Last night, as I was saying my prayers, I asked the Lord's help in this examination."

The instructor said, "Let me see your examination book."

He took it, looked it over, handed it back, and said, "Young man, I think you can sign it all right." (Laughter.)

Well, I want to use that story to say that for whatever inspiration I may have had from that source, or from any other, for these remarks, I did not do what was my first impulse, namely, to go straight to some of my good friends who know something about textiles and ask them what I ought to say under the circumstances. So I am entirely and personally responsible for what I do have to say.

My contact with textile problems, outside of my good friends on our own staff, has come largely in connection with the two great sister organizations working essentially toward the same objective—that is, the Textile Foundation, and this United States Institute for Textile Research. During the past four years, as I have had an opportunity to see some of the things that have been accomplished by these two organizations, it seems to me that it is very heartening for the future, despite the difficulties of the past and present, to realize some of the things that have been done.

Take, for example, the work of the Textile Foundation, as I have had a small opportunity to see it.

Our institution, along with several other educational institutions, was the beneficiary of a grant of money. We have used that to carry on a

program of textile research, supplemented by funds from our own budget, which has gone along principally four lines: first, the development of mechanical devices for the testing of textile fabrics; second, the research in textile microscopy which Professor Schwarz has alluded to; third, the invention of an instrument and its application to the analysis of color and the matching of color in dyed fabrics; and fourth, a study of textile bacteriology—that is, the effect on textiles of organisms which produce mildew and other deleterious actions.

We are in the process now, Mr. Hobbs, of preparing a report to the Textile Foundation on the accomplishments that have been made possible by this assistance. I do not know what the programs have been in the other institutions, but I have enough faith in those institutions to believe that it is a fair statement to say that this support by the Textile Foundation has been of real value, a value that probably will not be realized completely for some time to come.

A second activity of the Foundation was the establishment of the Textile Research Fellowships, which were inaugurated primarily for three purposes, and as I see the situation, these three purposes are given in the order of their relative importance: first, to stimulate in the leading university laboratories all over the country an interest in textile problems and in textile research, each Textile Research Fellow being looked upon as a nucleus for the development of such interest in those institutions; second, the drawing into the field of interest in textiles of a well selected group of scientifically trained young men, some of whom might ultimately actually be drawn into the industry itself; and, third, the actual handling and perhaps solution of some of the problems of basic scientific or technical importance; not shop problems or mill problems, but problems that might form the basis of large advances for the future.

This program, I believe, has been very useful. In my humble opinion, it is not being carried on as actively as its merits deserve, but it is still in operation and tangible results of value have already come from it.

The fourth activity of the Foundation that I would mention has been the survey of textile education, and as a result of that survey, the formulation of certain principles of textile education, certain policies that have been worked out after consultation with men who are expert not only in the educational field, but also in the manufacturing field. This survey, while completed and published, is still an active thing, because there will continue for some time to come a series of conferences between those who are most intimately interested in the problems of textile education, looking toward a reorganization or a development of textile education along these lines. Those and other things of that type have been great accomplishments by this organization.

Turning now to the other organization, your own organization, there has been a definite program carried on. It is not necessary for me to dwell on that, because you know it far better than I do, but things which stand out in my own mind are, for example, the publication and the popularization program that has been alluded to by the two preceding speakers; the publication of *TEXTILE RESEARCH*, for example, is a unique and very important function.

Naturally, your organization is made up of the men who are most interested in and most strategically located with respect to the introduction of ideas of research, results of research, and the method of research into

the actual operating industries of the country, so that you form a natural clearinghouse for the kind of activity in which we believe lies the future of the textile industry, for better textiles for the benefit of the public, and for a better situation within the industry itself.

The point of my remarks, based upon this background, is this: It seems to me that there is needed in the textile industry in all of its ramifications, to a remarkable extent, a degree of co-operation. Because of the historical background of the textile industry and its inherent nature, I think co-operation is a peculiarly difficult thing to bring about, but, by the same token, it is peculiarly important. These two organizations are the groups which are on the horizon and which have a peculiar opportunity to bring this co-operation about.

In order to do so, it seems to me the first step should be the closest possible co-operation between these two organizations themselves. I know that such co-operation has taken place in the past, and that it has been fruitful of good results. But I am very much convinced, based, I grant, on superficial knowledge, that there are far greater opportunities for co-operation between these two organizations in the future, more perhaps than even the members of the organizations realize at this time.

I might illustrate my remarks by the story which some of you may have heard of the poetry contest in an elementary school. There were three entries in this contest, Dan, Sadie and Sam. Dan got up and recited the following poem:

"My name is Dan.
When I grow up to be a man,
I want to go to Japan,
If I can.
And I think I can."

Sadie's poem was this:

"My name is Sadie.
When I grow up to be a lady,
I want to have a baby,
If I can.
And I think I can."

Sam came along with this one, which took the prize:

"My name is Sam.
When I grow up to be a man,
I don't want to go to Japan.
I want to help Sadie with her plan,
If I can.
And I think I can." (Laughter.)

I submit that the problem is here and that these two organizations are the Sam and the Sadie. I don't know which is which. That perhaps is a question for debate. (Laughter.)

But the possibilities of co-operation of this type in a very analogous situation, I think, are very well illustrated in two older types of organizations. I refer, on the one hand, to the great altruistic foundations of which perhaps the Rockefeller Foundation and the Carnegie Foundation are

the outstanding examples. Those were foundations which had at their disposal trust funds for altruistic purposes, with a program of wide vision.

On the other hand, there developed by necessity, at about the time of the War, an organization of the scientists of the country, in what is known as the National Research Council, which is the representative, organized group of the active scientists in the country. Of those two types of organizations, the Foundations had certainly much the broader problem. Their problem not only included science, but it included the humanities, the arts, social sciences, government, anything for which the funds could be used for the benefit of mankind. But in the particular field of science, their interests did very definitely overlap, and the co-operation between those two organizations in this overlapping field has been, to my mind, by far the most important single element in the development of science in this country during the past ten or twelve years.

So my suggestion is simply this: It seems to me that it is very important for these two organizations to survey their situations, and determine to what extent a closer co-operation between them may be possible along the line on which their objectives are common.

Reverting again to Sadie and Sam, I should say that it seems to me that this is the most important specific problem before the two organizations, if it can be handled, and I think it can. (Laughter and applause.)

Remarks of Mr. Franklin W. Hobbs

WITH reference to this research work, I think that both Prof. Schwarz and Dr. Rose have given us a very admirable suggestion. It is a very difficult thing to try to interpret what is going on. That was what led the Textile Foundation to financially support your magazine, *TEXTILE RESEARCH*, in order to have that work which we have been carrying on brought clearly before the industry so that they might know what was being done.

I appreciate very much the remarks that Dr. Compton made about the work the Foundation has been doing. I can tell you very sincerely and very heartily that I think the Textile Foundation owes a tremendous debt to Dr. Compton. We have found him at all times ready and willing to help us. He has been of tremendous value in many branches of the work we try to carry on. He has been free with his advice and help and assistance, and of great value to us—of tremendous value.

I can make the same remark about Prof. Schwarz, Dr. Rose and my dear old friend, Dr. Herty, in the selection of our research fellows. In that work we received tremendous help from all of these gentlemen.

Dr. Compton has been outstanding as the chairman of various committees. He was chairman of the committee that we asked to select a man to make the investigation of textile schools, to which he has referred. Last year, we made up our minds that there was a great field before us to try to get the textile schools into a better condition as to their requirements and their courses of study, to bring them to a more uniform basis.

Dr. Compton again served as chairman of a committee to select a man to carry on that work for us, and Mr. Feiker, the man selected, has done an exceptional piece of work. We had a wonderful conference at Atlantic